

[illegible]

For: Modular Sensor Platform

Commissioner for Patents
Washington, D.C. 20231

This is a Preliminary Amendment being filed at the same time as the original Application for a Patent for a Modular Sensor Platform filed on **01/30/02** with first named Inventor, Young

In the Specification:

Please Replace Paragraph [0032] with the following paragraph:

[0032] **Figure 4** shows a preferred embodiment of the present invention where the platform system **1** is positioned onto and attached to a robotic vehicle, **R** having a drive train and power supply. First side **3a** provides air flow apparatus **3c** and **3d** (and air flow apparatus **3e** and **3f** on side **3b**, not shown). Front portion **4** includes an aperture **4a** into which a scanning laser rangefinder (LADAR) is positioned. Front portion **4** also includes sonic sensors **4b**. System **1** also allows for a plurality of apparatus and

sensors **A** to be positioned on plates **6a**, **6b**, **6c** and **6d**, as shown. As discussed above, system **1** allows the robotic vehicle **R** to obtain and transmit data in harsh environments and weather conditions. The platform system **1** provides a water, dust and dirt resistant enclosure mechanism which protects the sensors and apparatus from damage while at the same time providing a mechanism by which individual apparatus/sensor(s), components of the apparatus/sensor(s) including all wiring can be easily accessed, maintained and repaired.

Please Replace Paragraph [0035] as follows:

[0035] Side portion **103a** includes a side panel **103c**, and side portion **103b** includes a side panel **103d**. Panels **103c** and **103d** are attached to their respective panels via screws **S**. Additionally, panels **103c** and **103d** may be hinged, utilizing quick release hinges, along the bottom edges (not shown) and fastened using known fastening apparatus. Side panels **103c** and **103d**, as shown in figure 5, also includes air flow apparatus **103e**. Air flow apparatus **103e** include filters, fans and vents to provide necessary air flow to prevent components and wiring from overheating (not shown).

Please Replace Paragraph [0040] as follows:

Please Amend Claim 16 as follows:

16. (Amended) A robotic vehicle having a drive train and power supply comprising:

an upper portion, a first side, a second side, a front portion and a back portion constructed so as to form a platform, wherein said platform is further constructed so as to house a plurality of apparatus and sensors, said apparatus and said sensors being further comprised of at least one component part and at least one wire.

said platform further comprising a plurality of quick release upper hinges, said upper hinges constructed so as to allow said upper portion to be lifted away from said front portion and said base portion;

said platform further comprising a plurality of gas charged lift supports, said lift supports constructed so as to control the rate of ascent and descent of said upper portion, said lift supports further constructed so as to hold said upper portion in an open position and prevent inadvertent closing of said upper portion;

said platform comprising a plurality of quick release lower hinges, said hinges constructed so as to allow said upper portion and said base to be lifted away from said front portion; and

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said platform further comprising a support mechanism, said support mechanism further comprising a catch, a rod and a safety cable, said support mechanism further constructed so as to maintain said upper portion and said base in a raised position, said safety cable further constructed so as to prevent said upper portion and said base from opening too far.

Please Amend Claim 22 as follows:

22. (Amended) A system for attaching apparatus and sensor devices comprising:

An upper portion, a first side, a second side, a front portion and a back portion constructed so as to form a platform, wherein said platform is further constructed so as to house a plurality of said apparatus and said sensors, said apparatus and said sensors being further comprised of at least one component part and at least one wire; and

said first and second sides each further comprising a removable panel, said removable panel constructed so as to be removable from said first and second sides, said panels further constructed so as to allow access into an inner portion of said platform.

Please Amend Claim 28 as follows:

28. (Amended) A system as recited in claim 27, wherein said front portion further comprises at least one removable panel positioned on said front portion of said platform, said at least one removable panel further constructed so as to provide quick access to said inner portion of said platform.

REMARKS

Paragraph [0032] is Amended to add reference number **6b** that was erroneously omitted from the original Specification.

Paragraph [0035] is Amended to add show that reference number **103e** refers to filters, fans and vents which are not shown.

Paragraph [0040] is Amended to correct the placement of a parenthesis.

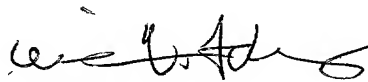
Applicant proposes to make Drawing Corrections to Figures 2, 3(d), 5(c) and 6 to insert omitted reference numbers.

Claims 1, 16 and 22 have been amended to specifically recite components and wires referred to in dependent Claims.

Attached hereto is a marked-up version of the changes made to the Specification by the current Amendment. The attached page is captioned "**Version with Markings to Show Changes Made.**"

Respectfully submitted,

30 JAN 2002
DATE


William V. Adams
Attorney for Applicants
Reg. No. 32,552

Version with Markings to Show Changes Made.”

In the Specification:

Paragraph [0032] has been Amended as follows:

[0032] **Figure 4** shows a preferred embodiment of the present invention where the platform system 1 is positioned onto and attached to a robotic vehicle, **R** having a drive train and power supply. First side **3a** provides air flow apparatus **3c** and **3d** (and air flow apparatus **3e** and **3f** on side **3b**, not shown). Front portion **4** includes an aperture **4a** into which a scanning laser rangefinder (LADAR) is positioned. Front portion **4** also includes sonic sensors **4b**. System **1** also allows for a plurality of apparatus and sensors **A** to be positioned on plates **6a**, **6b**, **6c** and **6d**, as shown. As discussed above, system **1** allows the robotic vehicle **R** to obtain and transmit data in harsh environments and weather conditions. The platform system **1** provides a water, dust and dirt resistant enclosure mechanism which protects the sensors and apparatus from damage while at the same time providing a mechanism by which individual apparatus/sensor(s), components of the apparatus/sensor(s) including all wiring can be easily accessed, maintained and repaired.

Paragraph [0035] has been Amended as follows:

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[0035] Side portion 103a includes a side panel 103c, and side portion 103b includes a side panel 103d. Panels 103c and 103d are attached to their respective panels via screws S. Additionally, panels 103c and 103d may be hinged, utilizing quick release hinges, along the bottom edges (not shown) and fastened using known fastening apparatus. Side panels 103c and 103d, as shown in figure 5, also includes air flow apparatus 103e. Air flow apparatus 103e include filters, fans and vents to provide necessary air flow to prevent components and wiring from overheating (not shown).

Paragraph [0040] has been Amended as follows:

[0040] As shown in **figure 5(c)**, when the upper portion 102 and base 107 are raised, a fastener mechanism 108, having a catch 108a and a rod 108b maintains the upper portion 102 and base 107 in the raised position. A safety cable 108c prevents the upper portion 102 and base 107 from opening too far in the ascending direction before catch 108a and rod 108b are attached. Quick release latching mechanisms 109a (proximate to side 103a) and 109b (proximate to side) 103b and not shown[] allow for rapidly opening and closing upper portion 102 and base 107.

In the Claims:

Claim 1 has been Amended as follows:

1. (Amended) 1. A system for attaching apparatus and sensor devices comprising:

An upper portion, a first side, a second side, a front portion and a back portion constructed so as to form a platform, wherein said platform is further constructed so as to house a plurality of said apparatus and said sensors[.], said apparatus and said sensors being further comprised of at least one component part and at least one wire.

Claim 16 has been Amended as follows:

16. A robotic vehicle having a drive train and power supply comprising:

an upper portion, a first side, a second side, a front portion and a back portion constructed so as to form a platform, wherein said platform is further constructed so as to house a plurality of apparatus and sensors[;], said apparatus and said sensors being further comprised of at least one component part and at least one wire.

said platform further comprising a plurality of quick release upper hinges, said upper hinges constructed so as to allow said upper portion to be lifted away from said front portion and said base portion;

said platform further comprising a plurality of gas charged lift supports, said lift supports constructed so as to control the rate of ascent and descent of said upper portion, said lift supports further constructed so as to hold said upper portion in an open position and prevent inadvertent closing of said upper portion;

said platform comprising a plurality of quick release lower hinges, said hinges constructed so as to allow said upper portion and said base to be lifted away from said front portion; and

said platform further comprising a support mechanism, said support mechanism further comprising a catch, a rod and a safety cable, said support mechanism further constructed so as to maintain said upper portion and said base in a raised position, said safety cable further constructed so as to prevent said upper portion and said base from opening too far.

Claim 22 has been Amended as follows:

22. (Amended) A system for attaching apparatus and sensor devices comprising:

An upper portion, a first side, a second side, a front portion and a back portion constructed so as to form a platform, wherein said platform is further constructed so as

to house a plurality of said apparatus and said sensors[;],
said apparatus and said sensors being further comprised of
at least one component part and at least one wire; and

said first and second sides each further comprising a
removable panel, said removable panel constructed so as to
be removable from said first and second sides, said panels
further constructed so as to allow access into an inner
portion of said platform.

Claim 28 has been Amended as follows:

28. (Amended) A system as recited in claim 27, wherein said
front portion further comprises at least one removable
panel[s] positioned on said front portion of said platform,
said at least one removable panel [front panels] further
constructed so as to provide quick access to said inner
portion of said platform.

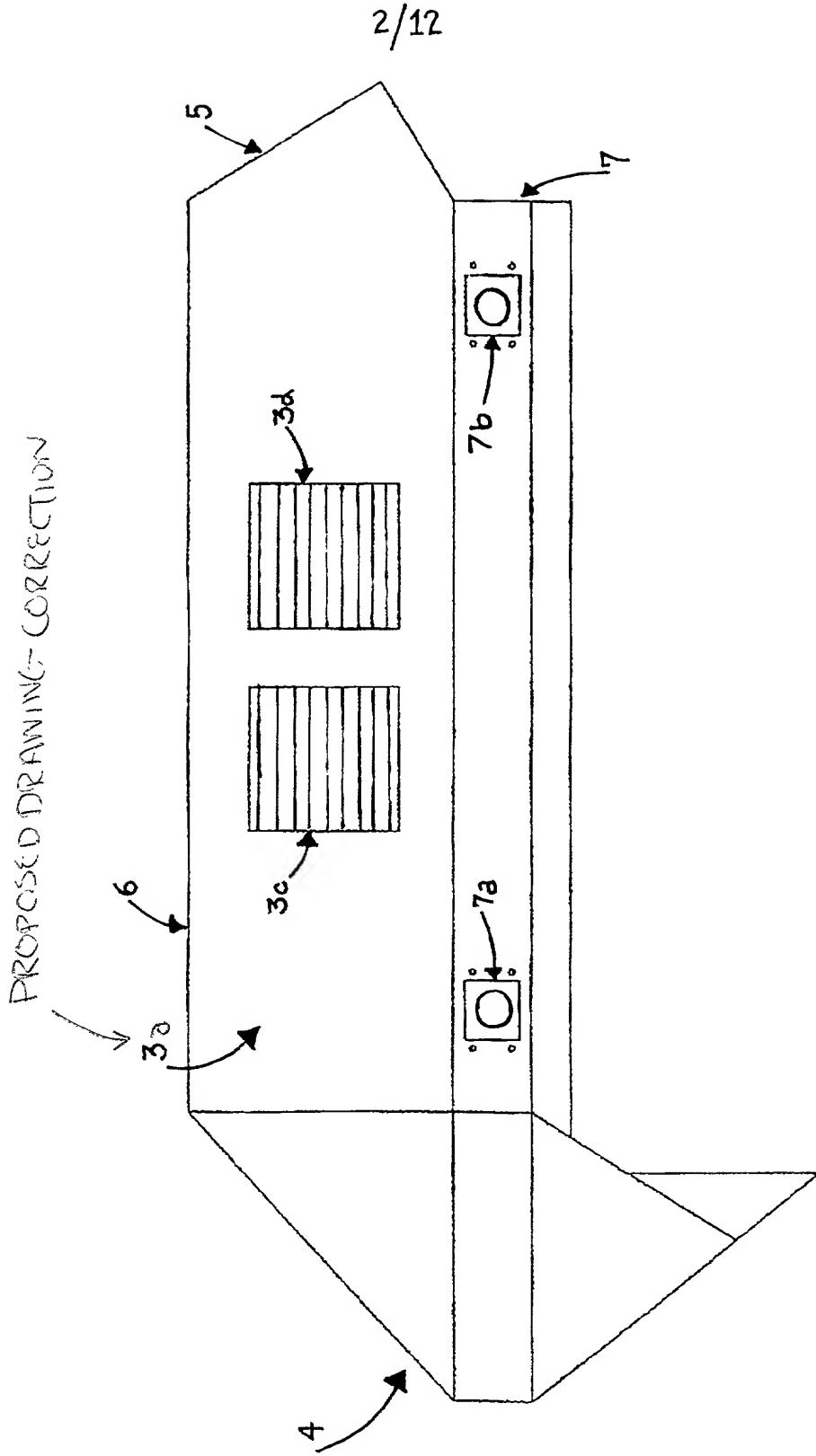


FIGURE 2

PROPOSED DRAWING CHANGE

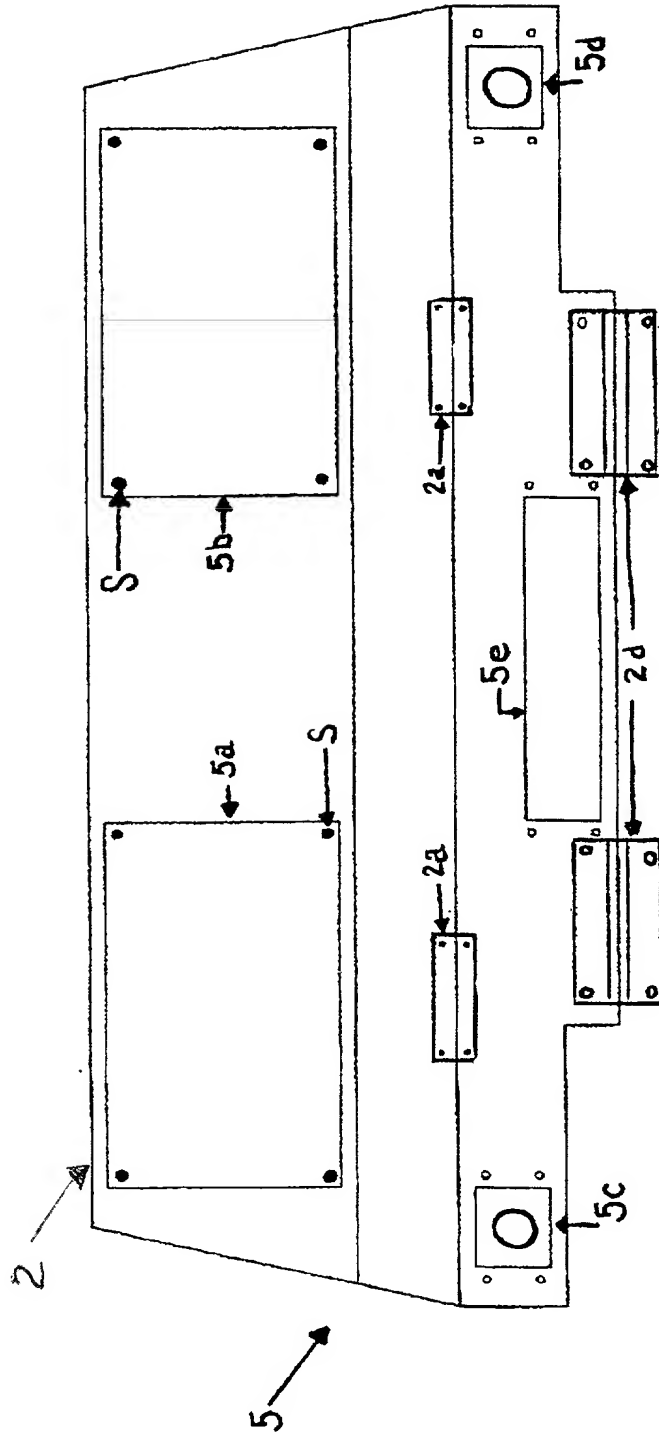


FIGURE 3(d)

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PROPOSED DRAWING CHANGE

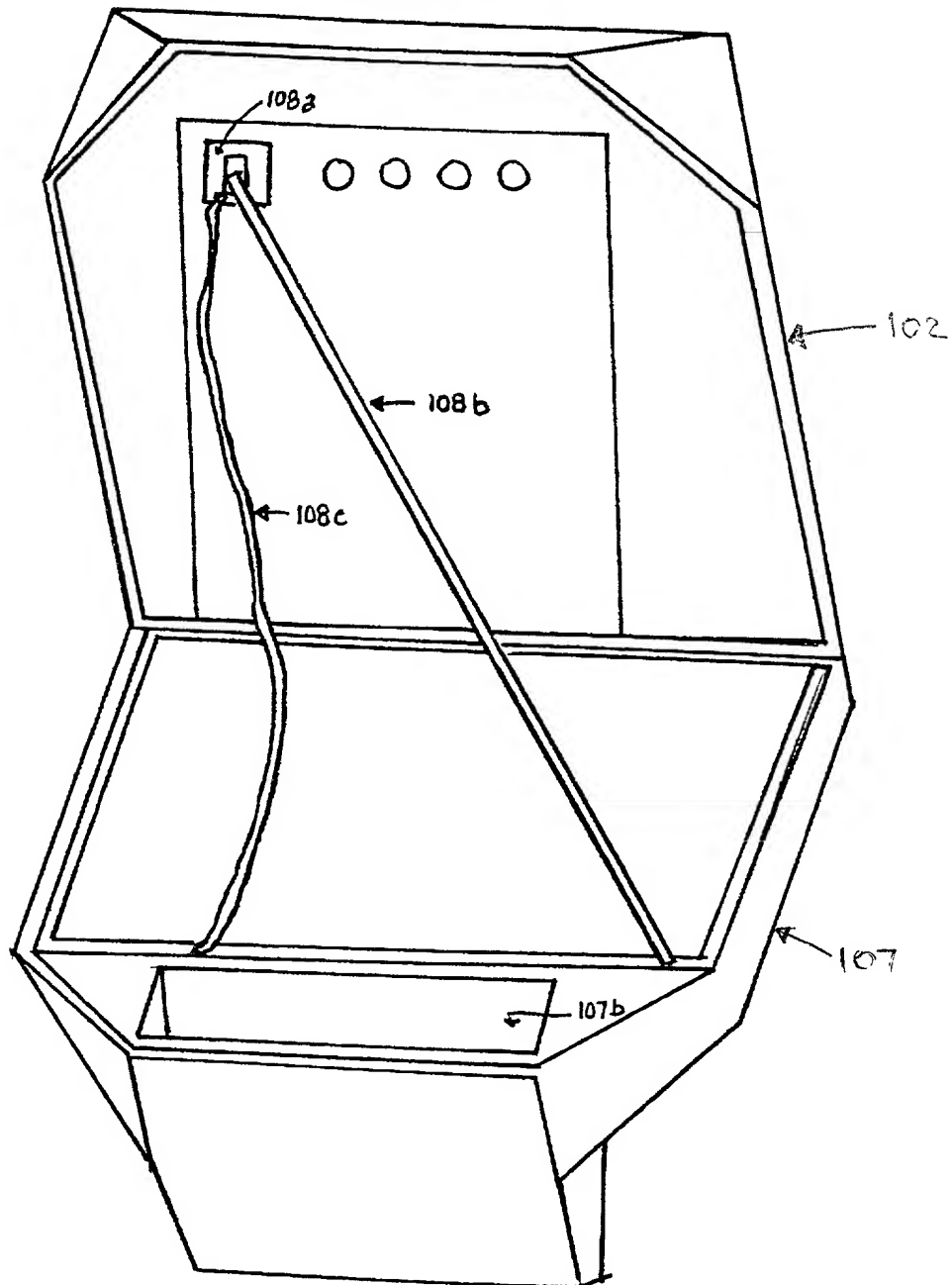


FIGURE 5(C)

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PROPOSED DRAWING CHANGE

Fig.6

